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| 10/586,238 | 07/17/2006 | Myung-won Kang | Q95839 | 1737 |

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| EXAMINER |
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DISTEFANO, GREGORY A

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2176

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11/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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| Office Action Summary | Application No. 10/586,238 | Applicant(s) KANG ET AL. | |
| | Examiner GREGORY A. DISTEFANO | Art Unit 2176 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/17/2006, 10/20/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the application filed on 7/17/2006.
2. Claims 1-14 have been submitted for examination.

Drawings

3. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 2, 7, and 10 objected to because of the following informalities: all 3 claims refer to an "I-frame". However, claims 2 and 10 define this "I-frame" as an "Intra frame" while claim 7 defines the "I-frame" as an "Inter-frame". Such varying definitions may cause confusion for the definition as to what applicant intends to be the definition of an "I-frame". The examiner suggests amending the subject claims to cancel the term "I-frame" or to amend the claims so that each claims' definition of "I-frame" is equivalent. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 2 and 10 recite the limitation "the frame" in the first line of the claims.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 8-14:

In summary, Claim 8 recites an "*apparatus*" that performs the function of "*searching for a video clip*" (see Line 1). The examiner notes that Claim 8 fails to positively recite any components of the "*apparatus*" in that the claim only recites that the "*apparatus*" searches for a video clip that provides a "*user interface*" that includes

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“*display area*” and a “*video clip information area*” (see Lines 1-3). Thus, Claim 8 fails to positively recite any hardware components of the “*apparatus*.” Accordingly, for purposes of examination, the examiner interprets the recited “*apparatus*” to be software per se. That is, the recited “*apparatus*” is not a process, a machine, a manufacture or a composition of matter.

Accordingly, Claim 8 fails to recite statutory subject matter as defined in 35 U.S.C. 101.

Claims 9-14 merely recite either additional computer software components or further functions performed by the “*apparatus*.” Thus, Claims 9-14 do not further define the recited “*apparatus*” as being within a statutory process, machine, manufacture or composition of matter.

Accordingly, Claims 9-14 fail to recite statutory subject matter as defined in 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3, 6, 8, 9, and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakajima et al. (US 6,026,389), hereinafter Nakajima.

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10. As per claim 1, Nakajima teaches the following:

displaying a number of video clips as predetermined on a screen of a video playing apparatus which plays a video file, (pg. 4, lines 9-13), i.e. in the query and editing file processing 12, a file selection window 12a as shown in Fig. 3 is displayed on the above edit control window 11a which is opened. The file selection window 12a in Fig. 3 is used to list image files in a directory in which motion picture files are stored;

selecting a specific video clip among the displayed video clips by a user, (column 4, lines 62-63), i.e. if OK 37a is specified, the control moves to the motion picture query processing 13 for the selected image; and

dividing frames constructing the selected video clip according to a pre-determined division reference, and displaying the video clip constructed of the divided frames, (column 6, lines 18-25), i.e. the Macro Browser window 621 is used to query images in macro units for an image specified on the File Browser window 620. The Macro Browser window 621 is used to display an image in a specified time stop TS from the image in the image window 61 specified on the File Browser window 620. TS 64 is a time step, and a user can specify an arbitrary step such as, for example, 5 sec or 30 sec. It is used for the macro query interval specification 53 in Fig. 5.

11. Regarding claim 3, Nakajima teaches the method of claim 1 as described above. Nakajima further teaches the following:

the division reference divides a play time of the selected video clip by a predetermined interval, (column 6, lines 18-25), i.e. the Macro Browser window 621 is

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used to query images in macro units for an image specified on the File Browser window 620. The Macro Browser window 621 is used to display an image in a specified time step TS from the image in the image window 61 specified on the File Browser window 620. TS 64 is a time step, and a user can specify an arbitrary step such as, for example, 5 sec or 30 sec. It is used for the macro query interval specification 53 in Fig. 5.

12. As per claim 6, Nakajima teaches the following:

displaying a number of video clips as predetermined on a screen of a video playing apparatus which plays a video file, (pg. 4, lines 9-13), i.e. in the query and editing file processing 12, a file selection window 12a as shown in Fig. 3 is displayed on the above edit control window 11a which is opened. The file selection window 12a in Fig. 3 is used to list image files in a directory in which motion picture files are stored;

selecting a specific video clip among the displayed video clips by a user; providing a user interface capable of inputting a specific time to play the video file corresponding to the selected video clip by the user, (column 4, lines 62-63), i.e. if OK 37a is specified, the control moves to the motion picture query processing 13 for the selected image; and

playing the video file corresponding to the selected video clip from a position corresponding to the input specific time when the user inputs the specific time into the user interface, (column 5, lines 48-54), i.e. on the File Browser window 620, the query start position specification 52 in Fig. 5 is executed. A motion picture file cursor 63 is a

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cursor for specifying a query start position of a motion picture. By shifting this cursor 63, the query start position changes. Additionally, according to the cursor position, an image at the position is displayed in the File Browser image window 61. Furthermore, in connection with the cursor 63, Time 614 is displayed above the cursor.

13. As per claim 8, Nakajima teaches the following:

a display area where a number of video clips as predetermined are displayed, (pg. 4, lines 9-13), i.e. in the query and editing file processing 12, a file selection window 12a as shown in Fig. 3 is displayed on the above edit control window 11a which is opened. The file selection window 12a in Fig. 3 is used to list image files in a directory in which motion picture files are stored, *and*

a video clip information area where information on a video clip selected by a user among the displayed video clips is displayed, (column 4, lines 48-53), i.e. this link file can be shared by using its first line for the playback time information of the Total Time 32 and its second and subsequent lines for the information 33. Byte 302 is used to indicate a capacity of the motion picture file.

14. Regarding claim 9, Nakajima teaches the method of claim 8 as described above. Nakajima further teaches the following:

frames constructing the selected video clip are divided on the display area according to a predetermined division reference, (column 6, lines 18-25), i.e. the Macro Browser window 621 is used to query images in macro units for an image specified on

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the File Browser window 620. The Macro Browser window 621 is used to display an image in a specified time stop TS from the image in the image window 61 specified on the File Browser window 620. TS 64 is a time step, and a user can specify an arbitrary step such as, for example, 5 sec or 30 sec. It is used for the macro query interval specification 53 in Fig. 5, and

the video clip which is constructed by the divided frames is displayed, (column 6, lines 20-23), i.e. the Macro Browser window 621 is used to display an image in a specified time step TS from the image in the image window 61 specified on the File Browser window 620.

15. Regarding claim 11, Nakajima teaches the apparatus of claim 9 as described above. Nakajima further teaches the following:

the division reference divides a play time of the selected video clip by a predetermined interval, (column 6, lines 18-25), i.e. the Macro Browser window 621 is used to query images in macro units for an image specified on the File Browser window 620. The Macro Browser window 621 is used to display an image in a specified time stop TS from the image in the image window 61 specified on the File Browser window 620. TS 64 is a time step, and a user can specify an arbitrary step such as, for example, 5 sec or 30 sec. It is used for the macro query interval specification 53 in Fig.

5.

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16. Regarding claim 12, Nakajima teaches the apparatus of claim 8 as described above. Nakajima further teaches the following:

the information on the video clip refers to information on a play time of the selected video clip, (column 4, lines 48-53), i.e. this link file can be shared by using its first line for the playback time information of the Total Time 32 and its second and subsequent lines for the information 33. Byte 302 is used to indicate a capacity of the motion picture file.

17. Regarding claim 13, Nakajima teaches the apparatus of claim 8 as described above. Nakajima further teaches the following:

the user interface further includes a play control area to play the selected video clip (see Nakajima's Fig. 2, #21).

18. Regarding claim 14, Nakajima teaches the apparatus of claim 8 as described above. Nakajima further teaches the following:

the apparatus provides a time input user interface when the user selects a specific video clip in the display area, (column 5, lines 48-54), i.e. on the File Browser window 620, the query start position specification 52 in Fig. 5 is executed. A motion picture file cursor 63 is a cursor for specifying a query start position of a motion picture. By shifting this cursor 63, the query start position changes. Additionally, according to the cursor position, an image at the position is displayed in the File Browser image

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window 61. Furthermore, in connection with the cursor 63, Time 614 is displayed above the cursor, and

when the user inputs a specific time to the time input user interface, the video file corresponding to the selected video clip is played from a position corresponding to the input specific time among the selected video clip, (column 5, lines 48-54), i.e. on the File Browser window 620, the query start position specification 52 in Fig. 5 is executed. A motion picture file cursor 63 is a cursor for specifying a query start position of a motion picture. By shifting this cursor 63, the query start position changes. Additionally, according to the cursor position, an image at the position is displayed in the File Browser image window 61. Furthermore, in connection with the cursor 63, Time 614 is displayed above the cursor.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 2, 7, and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima as applied to claims 1 and 9 as described above, in view of Maeda (US 5,353,062).

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21. Regarding claims 2 and 10, Nakajima teaches the apparatus of claims 1 and 9 as described above. However, Nakajima does not explicitly teach a method where the frame refers to an I-frame. Maeda teaches the following:

the frame refers to an I-frame (Intra frame), (abstract), i.e. a method and apparatus for displaying images is presented in which intra-frame encoding is performed on image data at N frame intervals.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the frame display method of Nakajima with the intra-frame methodology of Maeda. One of ordinary skill in the art would have been motivated to have made such modifications because both Nakajima and Maeda are analogous art in the field of processing video data. Furthermore, Nakajima describes a method in column 6, lines 18-25 a method of scrolling frames of a video in time intervals. Maeda describes intra-frames as being performed on a similar frame interval.

22. Regarding claim 7, Nakajima teaches the apparatus of claim 6 as described above. However, Nakajima does not explicitly teach a method where a closest I-frame closest to the position of a user specified time is selected. Maeda teaches the following:

the step of playing the video file includes playing the video file corresponding to the selected video clip from an I-frame(Inter-frame) closest to the position corresponding to the input specific time when the user inputs the specific time into the user interface, (abstract), i.e. if, on the other hand, the frame being decoded is an

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interpolative frame, the intra-frame encoded frame nearest to the frame being decoded, or a predictive frame, is displayed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the frame display method of Nakajima with the predictive frame methodology of Maeda. One of ordinary skill in the art would have been motivated to have made such modifications because both Nakajima and Maeda are analogous art in the field of processing video data. Furthermore, both Nakajima discusses selecting a video to display in pg. 4, lines 9-13 and Maeda discusses the same in column 4, lines 63-67. Still further, Maeda describes in column 6, lines 45-50 that interpolative frames are of a lesser quality than that of the predictive frame. Therefore, upon modification of Nakajima in view of Maeda, a user utilizing the time selection method of Nakajima it would benefit the user to display the nearest predictive frame as this is of a higher quality.

23. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima as applied to claim 1 as described above, in view of Liou et al. (US 6,278,446), hereinafter Liou.

24. Regarding claim 4, Nakajima teaches the apparatus of claim 6 as described above. However, Nakajima does not explicitly teach a method of repeating the dividing step when a termination condition of the division is not satisfied. Liou teaches the following:

selecting the specific video clip among the displayed video clips by the user when a predetermined termination condition of the division reference is not satisfied, and repeating the step of dividing frames, (column 13, line 1), i.e. Fig. 13B depicts the find-structure portion of the method.

As may be seen in Liou's Fig. 13B, at step 80, Liou defines that if a set of shots has only one node (frame), that set shall consist of only one shot s. Therefore, that set can not be further broken down into further sub-shots.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the frame searching method of Nakajima with the video structure finding method of Liou. One of ordinary skill in the art would have been motivated to have made such modification because both Nakajima and Liou are analogous art in the field of breaking down video content into individual frames for the purpose of aiding a user to find specific content among the video.

25. Regarding claim 5, modified Nakajima teaches the method of claim 4 as described above. Liou further teaches the following:

the termination condition is that a play time of the selected video clip is less than a predetermined time, (column 3, lines 29-35), i.e. a method for automatically grouping shots into groups of visually similar shots, each group of shots capturing structure in raw video, the shots generated by detecting abrupt scene changes in raw frames of the video which represent a continuous action in time and space.

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The examiner interprets this teaching of Liou to encompass applicant's claim in that a shot is a set of frames of a certain length and that as Liou shows in Fig. 13B, a node may be created consisting of only one shot. Therefore, as a "shot" may be a unit of time and a node may consist of only one "shot", Liou's method shows that a node of one "shot" may not be further sub-divided into sub-shots.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Yamada et al. (US 6,370,316), apparatus for retrieving and administrating moving pictures and related network system.
- Dieberger et al. (US 7,143,362), system and method for visualizing and navigating content in a graphical user interface.
- Gusmorino et al. (US 7,188,316), system and method for viewing and editing multi-value properties.
- Loui et al. (US 2006/0090141), method and system for browsing large digital multimedia object collections.
- Hwang et al. (US 2006/0251385), apparatus and method for summarizing moving-picture using events, and computer-readable recording medium storing computer program for controlling the apparatus.
- Ording (US 2008/0034306), motion picture preview icons.
- “Video Object Clustering Segmentation”, by Qi Lin et al., proceedings of the second international conference on machine learning and cybernetics, November 2003.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY A. DISTEFANO whose telephone number is

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(571)270-1644. The examiner can normally be reached on Monday through Friday, 9 a.m. - 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on 571-272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GREGORY A DISTEFANO/
Examiner, Art Unit 2176
11/8/2008

/Doug Hutton/
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